THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 16

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JOSEPH A. MANICO, DAVID L. PATTON
and EDWARD J. WALSH

Appeal No. 96-1455
Application No. 08/218,279[1]

ON BRIEF

Before HAIRSTON, FLEMING and DIXON, Administrative Patent Judges.

DIXON, Administrative Patent Judge.

DECISION ON APPEAL

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[1] Application for patent filed March 25, 1994.

This is a decision on appeal from the Examiner's final rejection of claims 1 through 25, which are all of the claims pending in this application.

BACKGROUND

A first embodiment of appellants' invention relates to an image print which includes one or more positive images representing one or more corresponding images on an image recording medium. An alphabetic description is provided on the image print for at least one of the one or more positive images which identifies the designated aspect ratio of at least one of the one or more corresponding images.

Independent claim 1 is reproduced as follows:

1. An image print comprising one or more positive images representing one or more corresponding images located on an image recording medium, is characterized in that:

an alphabetic description is provided on said image print for at least one of said one or more positive images which identifies a designated aspect ratio for at least one of said one or more corresponding images.

A second embodiment of appellants' invention relates to a method of making an image print having one or more positive images representing one or more corresponding images located on an image recording medium. The process includes the steps of automatically analyzing the one or more corresponding images to determine the aspect ratio of each of the one or more corresponding images, recording the image and providing visible indicators being associated respectively with the images for indicating the aspect ratio.

Independent claim 19 is reproduced as follows:

19. A method of making an image print having one or more positive images representing one or more corresponding images located on an image recording medium, comprising the steps of:

automatically analyzing said one or more corresponding images to determine an aspect ratio for each of said one or more corresponding images;

recording a positive image for each of said one or more corresponding images onto a recording sheet; and

providing one or more visible indicators on said recording sheet, said one or more visible indicators being associated respectively with one or more positive images for indicating the aspect ratio of said one or more corresponding images.

The prior art references of record relied upon by the Examiner in rejecting the appealed claims are:

Hicks	4,951,086	Aug. 21, 1990
Yoshiwaka	Hei 5-27406 (Japanese Kokai patent application)[2]	Feb. 5, 1993

Claims 1-6 and 25 stand rejected under 35 U.S.C. § 101 as being directed to nonstatutory subject matter. Claims 1-25 stand rejected under 35 U.S.C. § 103 as being unpatentable over Yoshiwaka in view of Hicks.

[2] Translation cited in the prosecution history. Our understanding of this reference is based on that English translation thereof prepared by the Ralph McElroy Company. A copy of that translation is attached hereto. Paragraphs 0043-0045 of this translation are incomplete due to a poor photocopy. A second translation of Yoshiwaka was prepared for clarification of the "Application Example 2," dated January 1999, by Schreiber Translations Inc. A copy is included herewith, but not referenced in this decision.

Rather than reiterate the conflicting viewpoints advanced by the Examiner and the appellants, we make reference to the brief[3] and answer[4] for the details thereto.

OPINION

After a careful review of the evidence before us, we disagree with the Examiner that claim 1 is properly rejected under 35 U.S.C. § 101 and we will reverse this rejection of claim 1. We agree with the Examiner that claim 1 is properly rejected under 35 U.S.C. § 103. Thus, we will sustain the rejection of this claim under 35 U.S.C. § 103, but we will reverse the rejection of claim 19 under 35 U.S.C. § 103 on appeal for the reasons set forth ***infra***.

[3] Appellants filed an appeal brief filed August 2, 1995 (Paper No. 9). We will refer to this appeal brief as simply the brief.

[4] The Examiner responded to the brief with an examiner's Answer mailed October 19, 1995 (Paper No. 10). We will refer to this examiner's answer as simply the answer. The answer incorporated the rejection under 35 U.S.C. § 103 from the final rejection, mailed December 27, 1994 (Paper No. 6). We will refer to this final rejection simply as the final.

Turning first to the rejection of claims 1-6 and 25 under 35 U.S.C. § 101 as directed to non-statutory subject matter directed to "printed matter," we will not sustain this rejection.

Our reviewing court addressed the extension of the "printed matter" to rejections under 35 U.S.C. § 101 in ***In re Lowry***, 32 F.3d 1579, 1583, 32 USPQ2d 1031, 1034 (Fed. Cir. 1994). The court stated:

> [T]he Board erroneously extended a printed matter rejection under sections 102 and 103 to a new field in this case, which involves information stored in a memory. This case, moreover, is distinguishable from the printed matter cases. The printed matter cases "dealt with claims defining as the invention certain novel arrangements of printed lines or characters, useful and intelligible only to the human mind." ***In re Bernhart,*** 417 F.2d 1395, 1399, 163 USPQ 611, 615 (CCPA 1969). The printed matter cases have no factual relevance where "the invention as defined by the claims ***requires*** that the information be processed not by the mind but by a machine, the computer." ***Id.*** (emphasis in original). Lowry's data structures, which according to Lowry greatly facilitate data management by data processing systems, are processed by a machine. Indeed, they are not accessible other than through sophisticated software systems. The printed matter cases have no factual relevance here.

The claimed invention is directed to an image print provided with alphabetic description on the image print which identifies a designated aspect ratio for at least one of the corresponding images. This description may be processed by a machine or read by a human.

The court in ***Lowry*** stated:

> More than mere abstraction, the data structures are specific electrical or magnetic structural elements in a memory. According to Lowry, the data structures provide tangible benefits: data stored in accordance with the claimed data structures are more easily accessed, stored, and erased. Lowry further notes that, unlike prior art data structures, Lowry's data structures simultaneously represent complex data accurately and enable powerful nested operations. In short, Lowry's data structures are physical entities that provide increased efficiency in computer operation. They are not analogous to printed matter. The Board is not at liberty to ignore such limitations.

Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035. Similarly, we may not ignore the functional limitation that the aspect ratio is provided on the image.

With respect to the mathematical algorithm and abstract idea exception, the Federal Circuit in ***State Street Bank & Trust Co. v. Signature Financial Group, Inc.***, 149 F.3d 1368, 1373, 47 USPQ2d 1596, 1600 (Fed. Cir. 1998) first identified the judicially created three categories that are not patentable (laws of nature, natural phenomena and abstract ideas) citing ***Diamond v. Diehr***, 450 U.S. 175, 185, 209 USPQ 1, 7 (1981). The opinion went on to note "the mathematical algorithm is unpatentable only to the extent that it represents an abstract idea" and is thus not "useful." ***State Street Bank,*** 149 F.3d at 1373 n.4, 47 USPQ2d at 1600-01 n.4. Later in its opinion, the court returned to this issue: "[T]he mere fact that a claimed invention involves inputting numbers, calculating numbers, outputting numbers, and storing numbers, in and of itself, would not render it non-statutory subject matter, unless, of course, its operation does not produce a 'useful, concrete and tangible result.'" ***State Street Bank,*** 149 F.3d at 1374, 47 USPQ2d at 1602. In this case, the court stated that "the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price,

constitutes a practical application of a mathematical algorithm . . . because it produces 'a useful, concrete and tangible result'. . . ." ***State Street Bank,*** 149 F.3d at 1373, 47 USPQ2d at 1601.

The court concluded its analysis of the mathematical algorithm exception as follows:

> The question of whether a claim encompasses statutory subject matter should not focus on ***which*** of the four categories of subject matter a claim is directed to . . . but rather on the essential characteristics of the subject matter, in particular, its practical utility.

State Street Bank, 149 F.3d at 1375, 47 USPQ2d at 1602.

We hold that the claim language is directed to an article of manufacture which recites subject matter that has a practical application in the technological arts. Claim 1 specifically recites that an "image print" is claimed. The image print is an article which has been manufactured by man. The claim also requires that the image print includes "an alphabetic description is provided on said image print for at

least one of said one or more positive images which ***identifies a designated aspect ratio for at least one of said one or more corresponding images***."

(Emphasis added.) The specification states that the article of manufacture has a practical application within the technological arts to provide an indication of the aspect ratio of the image on the image print. (See page 3 of specification, lines 5-17.) The storage of the aspect ratio of an image print allows customers to view the image(s) with a more understandable indication of the designated aspect ratio of corresponding images without customer confusion. Moreover, the alphabetic description of the aspect ratio allows for clear understanding of the aspect ratio by the customer. (See brief at page 4, lines 29-33 and specification at page 2, lines 30-35.) We note that the remaining claims 2-6 and 25 recite the above practical application. Therefore, we find these claims are directed to statutory subject matter.

Turning to the rejection of claims 1 through 25, claims 1 through 25 stand rejected under 35 U.S.C. § 103 as being unpatentable over Yoshiwaka in view of Hicks. We note on page

3 of the brief that appellants have grouped claims 1-18 and 25 as a first group and claims 19-24 as a second group. Appellants have provided separate arguments for patentability for each group as required. In accordance with 37 CFR § 1.192(c)(7), which was controlling at the time of appellants' filing of the brief, we consider claims 1-18 and 25 to stand or fall together, with claim 1 being considered the representative claim. 37 CFR § 1.192(c)(7) (July 1, 1995), ***as amended at*** 60 Fed. Reg. 14518 (March 17, 1995), 1173 Off. Gaz. Pat. & Trademark Office 62 (Apr. 11, 1995) states:

> ***Grouping of claims.*** For each ground of rejection which appellant contests and which applies to a group of two or more claims, the Board shall select a single claim from the group and shall decide the appeal as to the ground of rejection on the basis of that claim alone unless a statement is included that the claims of the group do not stand or fall together and, in the argument under paragraph (c)(8) of this section, appellant explains why the claims of the group are believed to be separately patentable. Merely pointing out differences in what the claims cover is not an argument as to why the claims are separately patentable.

It is the burden of the Examiner to establish why one having ordinary skill in the art would have been led to the claimed invention by the reasonable teachings or suggestions

found in the prior art, or by a reasonable inference to the artisan contained in such teachings or suggestions. ***In re Sernaker***, 702 F.2d 989, 995, 217 USPQ 1, 6 (Fed. Cir. 1983). In addition, the Federal Circuit states that "[t]he mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." ***In re Fritch***, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783-84 (Fed. Cir. 1992) (footnote omitted).

The Federal Circuit reasons in ***Para-Ordnance Mfg. Inc. v. SGS Importers Int'l Inc.***, 73 F.3d 1085, 1088-89, 37 USPQ2d 1237, 1239-40 (Fed. Cir. 1995), ***cert. denied***, 117 S.Ct. 80 (1996), that for the determination of obviousness, the court must answer whether one of ordinary skill in the art who sets out to solve the problem and who had before him in his workshop the prior art, would have been reasonably expected to use the solution that is claimed by the appellants. Furthermore, the test of obviousness is not whether features of a secondary reference may be bodily incorporated into the primary reference's structure, nor whether the claimed

invention is expressly suggested in any one or all of the references; rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. ***See In re Keller***, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981).

With this as background, we analyze the prior art applied by the Examiner in the rejection of the claims on appeal.

The Yoshiwaka reference is discussed in appellants' specification at pages 1-2, and page 10 discusses the system of Yoshiwaka regarding the importance and recordation of the designated aspect ratio with the images on the medium. Yoshiwaka discloses the importance of knowing the designated aspect ratio. (See paragraph 0005 of translation.) Markings indicating the designated aspect ratios are provided either inside, outside or to the periphery of the print image. (See paragraphs 0011-0013.) Yoshiwaka discloses the examples of the markings as dots and lines. Yoshiwaka also discloses that the storage of designated aspect ratio and other useful information, such as date and exposure, may be stored on a

magnetic medium and read at the time of reproduction. (See paragraph 0024.) Yoshiwaka discloses the measurement of density or operator input to a controller to provide correction for the print. (See paragraph 0029.) Yoshiwaka discloses the automatic use of the indicated aspect ratio or an aspect ratio input by an operator in the preparation of an image print. (See paragraph 0026.) Yoshiwaka also discloses that the output of a digital image and a separate output of the aspect ratio for each image for storage. (See paragraph 32.)

In summary, Yoshiwaka discloses an image print system which can use either measured values to adjust the production of a print image or digital image. The system can also use operator interface to produce the print or digital images. Without the use of operator input, the system reads designated aspect ratio data stored/recorded in association with images on a medium to produce an appropriate print image corresponding thereto. The stored designated aspect ratio may be stored as markings inside or outside the image or on the

periphery of the image as with magnetic medium bearing the data.

With regards to claim 1, as the Examiner found, Yoshiwaka teaches that it is desirable to include designated aspect ratio information with the print image. However, the Yoshiwaka device does not record the markings in alphabetic description form. Hicks discloses that in an automated reprint environment the use of alphabetic information is known and desirable. (See final at page 3, lines 19-20.) Hicks discloses the need for storage of print information which minimizes manual effort and subjective evaluation. (See col. 1, lines 19-65 of Hicks.) The stored data corresponding to the images is stored in a human and machine perceptible format. (See final at page 3, lines 24-27 and answer at page 4, lines 14-15.) Numbers or symbols are placed on the front of the print image or on the back of a photographic print as markings to indicate the designated aspect ratio and other useful information. (See col. 3, lines 27-38 of Hicks.) The data stored comprises both customer and reprint settings information. Figure 1(b) clearly shows the use of alphabetic,

numeric, bar code symbols used in the identification of stored data. Hicks explicitly teaches the use of alphabetic and numeric symbols to indicate data stored on or associated with the print image for the improved perception by the human viewer. We agree with the Examiner that the person of ordinary skill in the art of making image prints at the time the invention was made would have been motivated to incorporate the designated aspect ratio visibly stored on the print image of Yoshiwaka in any other language or symbols which would have been useful to either the machine or the human at the time the invention was made. (See final at page 3, lines 16-20.) We hold that the function and information content relating to the image print would have been similarly conveyed to either machine or human as long as the language or abbreviation were known.

Appellants argue on page 5 of the brief that the claims must be considered as a whole and consider the claims limitations directed to the printed matter in claim 1. We agree with appellants as to the proper manner of interpreting the claim, as a whole, but disagree with the application of

the relevant prior art. "In ***Gulack,*** this court concluded that 'the critical question is whether there exists any new and unobvious functional relationship between the printed matter and the substrate.'" ***Lowry,*** 32 F.3d at 1582, 32 USPQ2d at 1033 (citing ***In re Gulack***, 703 F.2d 1381, 1386, 217 USPQ 401, 404 (Fed. Cir. 1983)). Here, the examiner stated that the "intellectual content, e.g. the aspect ratio, does not carry any patentable weight." (see Answer at page 4, lines 15-17.) We disagree with this generic phrasing of this statement by the examiner. Our reviewing court has stated that it is the function of the claimed invention which must be considered in evaluating patentability. ***Id.*** The inclusion of the aspect ratio on the image print has a functional relationship to the image print and functions to convey the information about the image print to the customer or to a machine. Appellants have further argued that neither Yoshiwaka nor Hicks provide an "alphabetic description" on the image print of the designated aspect ratio. We disagree with appellants. As the Examiner found, Yoshiwaka teaches the inclusion of such information with image prints, but not as an alphabetic description. (See answer at page 4, lines 3-13.) Hicks clearly teaches the

inclusion of an alphanumeric description of image related information including aspect ratio. (See answer at page 14-15.) This would have been an "alphabetic description" of the aspect ratio on image prints. The language of the claim is not limited to specific words or abbreviations, such as, ordered alphabetic description.

Appellants argue at page 5, line 36, and page 6, line 5, that neither the Yoshikawa nor Hicks reference teaches alphabetic description of the designated aspect ratio. We agree that the two references do not individually teach appellants' claimed invention as recited in appellants' claim 1. However, the Examiner is not relying on Yoshikawa or Hicks alone to meet appellants' claim 1. The examiner has provided a motivation for the combination of references and we agree with the Examiner.

Upon evaluation of all the evidence before us, it is our conclusion that the evidence adduced by the Examiner is sufficient to establish a ***prima facie*** case of obviousness with

respect to claim 1. Accordingly, we will sustain the Examiner's rejection of claim 1 under 35 U.S.C. § 103.

Since we believe that one skilled in the art at the time of appellants' invention would have been motivated to make the proposed combination for the reasons given above with respect to claim 1, we have determined that claims 2 through 18 and 25 must be treated as falling with claim 1. ***See In re Nielson***, 816 F.2d 1567, 1572, 2 USPQ2d 1525, 1528 (Fed. Cir. 1987). Thus, it follows that the Examiner's rejection of claims 2 through 18 and 25 under 35 U.S.C. § 103 is also sustained.

Appellants have provided argument as to why claims 19-24 are separately patentable; therefore, claims 19-24 will be reviewed separately. Claim 19 is representative of claims 19-24.

With regard to claim 19, as discussed above Yoshiwaka discloses a system to reproduce one or more print images onto a recording medium and include designated aspect ratio information therewith. Appellants argue, at page 6, lines 10-

15 of the brief, "automatically analyzing ... images" to determine the aspect ratio at page 6 of the brief. A review of the specification reveals that the term "automatically" has not been defined. Therefore, the ordinary definition of the term will be used. "Automatic" is defined in ***Webster's New World Dictionary of the American Language*** (2d. College ed. 1972) as "moving, operating, etc. by itself; regulating itself." Appellants' arguments in combination with the disclosure in the specification concerning the problem with the prior art which the claimed invention overcomes support the ordinary definition. (See specification at page 2). The term "automatically" will be interpreted as "requiring no user input." As pointed out by our reviewing court, we must first determine the scope of the claim. "[T]he name of the game is the claim." ***In re Hiniker Co.***, 150 F.3d 1362, 1369, 47 USPQ2d 1523, 1529 (Fed. Cir. 1998). As pointed out by our reviewing court, claim language should be read with the "broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written

description contained in the applicant's specification." ***In re Morris***, 127 F.3d 1048, 1054, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997). From a review of the specification and appellants' arguments, the meaning of the limitation "automatically analyzing said one or more corresponding images" is understood. The specification refers to a computer measuring a value (e.g. density) relating to the image and the computer determines and assigns the aspect ratio of the one or more corresponding images rather than determining the aspect ratio of the image(s) from the associated markings stored with the markings or by operator input.

The examiner has pointed to no specific teaching in either Yoshiwaka or Hicks, nor presented any convincing line of reasoning as to why it would have been obvious to one of ordinary skill in the art at the time of the invention to provide automatic analysis of the image(s) to determine the aspect ratio. The mere existence that aspect ratio of images is determined and portions of the systems or processes of these prior art systems are automated as the Examiner has asserted in the answer at pages 5-6 does not motivate the

person of ordinary skill in the art at the time the invention was made to modify the instant prior art process to automatically analyze the image rather than automatically analyze the markings associated the image(s).

We will not sustain the rejection of claims 19-24 under 35 U.S.C. § 103.

CONCLUSION

To summarize, the decision of the Examiner rejecting claims 1-6 and 25 under 35 U.S.C. § 101 is reversed. The decision of the Examiner rejecting claims 1-18 and 25 under 35 U.S.C. § 103 is affirmed, and the decision of the Examiner rejecting claims 19-24 under 35 U.S.C. § 103 is reversed. The decision of the Examiner is affirmed-in-part.

No time period for taking any subsequent action in connec-tion with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

KENNETH W. HAIRSTON Administrative Patent Judge	)	
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